HEAT TREATED ARTICLE

Publication number: JP10168515

Publication date: 1998-06-23

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Classification:

- International: *C23C8/26; C21D1/06; C21D1/76; C21D6/00; C21D9/32; C21D9/40; C23C8/80; C23C8/24; C21D1/06; C21D1/76; C21D6/00; C21D9/32; C21D9/40; C23C8/80;* (IPC1-7): C21D6/00; C21D1/06; C21D1/76; C21D9/32; C21D9/40; C23C8/26; C23C8/80

- European:

Application number: JP19970213664 19970807

Priority number(s): JP19970213664 19970807; JP19960269780 19961011

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Abstract of **JP10168515**

PROBLEM TO BE SOLVED: To prevent cracking caused by air cooling and the defect of white points in machine parts in a short time, to improve the toughness thereof and to prolong its service life by executing heat treatment in which the parts is isothermally held to the Ms point of the noncarburized part or above and to the A1 transformation point of the carburized part and noncarburized part or below at the time of cooling after carburizing or carbonitriding treatment and thereafter executing quenching. SOLUTION: Before the stage of isothermal holding, in the case the temp. reduces to less than the Ms point of the core part (noncarburized part), martensite is formed, and also, it lies in a state in which a large amt. of hydrogen remains to increase the danger of causing air cooling cracking and the defect of white points, therefore, the attainment of its temp. to less than the Ms point must be avoided. Furthermore, in consideration of the efficiency of exhausting hydrogen, the isothermal holding temp. is optimumly regulated to directly below the A1 transformation point from the point of preventing the defect of white points. On the other hand, the temp. at which isothermal transformation swiftly progresses is preferable from the point of preventing air cooling cracking, and the one less than the A1 transformation point and also lower by 30 to 50 deg.C is optimum.

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